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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/038,562	03/11/1998	HONGYANG CHAO	63345	8464

7590 09/29/2004  
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NEW YORK, NY 10036-8403

EXAMINER

COUSO, YON JUNG

ART UNIT	PAPER NUMBER
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2625

DATE MAILED: 09/29/2004

31

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/038,562

**Applicant(s)**

CHAO ET AL.

**Examiner**

Yon Couso

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 1-15 and 22-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. Applicant's arguments with respect to claims 16-21 have been considered but are moot in view of the new ground(s) of rejection.

2. The objection made to the claim 20 has been withdrawn in response to the amendment.

3. The following is a quotation of the first paragraph of 35 U.S.C 112:

The specification shall contain a written disclosure of the invention, and the manner and process of making an using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 16-21 are rejected under 35 U.S.C. 112, first paragraph, because the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention.

Claim 16, lines 5-6, and claim 20, lines 4-5, recite selecting a wavelet transform technique "from a lifting scheme and a correction method". The disclosure does not appear to provide for selecting between or from two different types of wavelet transform techniques. It appears that the claim language should read "from a lifting scheme or a correction method". Claims 20 and 21 include the same problem.

The claim language will be interpreted as "from a lifting scheme or a correction method" in consistent with the original specification.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 16 is rejected under 35 U.S.C. 102(b) as being anticipated by Lawton (US 4,974,187).

For claim 16, Lawton teaches an image compression system comprising: an image source providing an image, the image having a plurality of pixels, each of the pixels having a finite number of bits (column 1, lines 6-10, Lawton discloses that the system is used in processing digital image data, wherein the digital image data inherently teaches a plurality of pixels, each of the pixels having a finite number of bits); a compressor coupled to the image source, the compressor configured to generate a compressed image based on an integer wavelet transform derived using a technique selected from a lifting scheme or a correction method (column 3, line 36-column 5, line 50), wherein the integer waveform transform have a definite number of bits that are no greater in number than the highest count for the number of bits for any of pixels of the image (The “modular arithmetic”, as defined by Merriam-Webster, Inc., is the “arithmetic that deals with whole numbers where the numbers are replaced by their remainders after division by a fixed number.” By definition, because Lawton uses modular digital signal processing, the integer waveform transform inherently have a definite number of bits that are no greater in number than the highest count for the number of bits for any of pixels of the image).

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lawton in view of Chui (US 5,604,824).

The arguments advanced in paragraph 4 above as to the applicability of the reference are incorporated herein.

For claim 17, Lawton teaches the image compression system wherein the compressor compresses a wavelet transformed image to produce the compressed image (column 6, lines 63-67). Even though Lawton does not teach details on the compressor quantizes a wavelet transformed image to produce the compressed image, Chui teaches this in at least in block 50 of Fig. 2 and c. 15, lines 53-59. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to incorporate quantization as a form of compression technique. Quantization technique is one of many well-known and widely used compression techniques. Lawton already

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teaches that the wavelet transformed image can be used in data compression that mere incorporation of quantization into the Lawton reference to perform compression is not deemed to be patentably significant.

For claim 18, Chui teaches that the compressor entropy encodes a quantized image to produce the compressed image (c. 15, line 66 – c. 16, line 1).

For claim 19, Chui teaches that the compressor performs a color transformation to produce the compressed image (c. 9, lines 26-44, where the image is color transformed from any one of several different image formats into RGB). Additionally, a color transform can also be construed as the color transform reduction process of Chui in c. 10, line 55 – c. 11, line 2, where a dithering process and mapping colors from a color histogram are certainly color transformations as well, and which transforms provide for further compression as noted in c. 15, lines 10-31.

For claim 20, see the rejection of at least claims 16 and . An image decompression system comprising a compressed image source providing a compressed image is provided by Chui in at least c. 37, lines 20-50. Chui provides for this and further for being derived using a technique selected from one of more than one method where cited above for claim 16, and in c. 4, lines 47- 60; c. 27, lines 55-61; c. 36, lines 60-67; c. 37, line 49 – c. 39, line 22; c. 39, lines 8-22; c. 40, lines 10-12 and lines 48-31; c. 41, lines 41-51; c. 42, lines 27-28; c. 45, lines 4-15; Fig. 17, blocks 134a, 134b, and 134c. The particular technique is selected in at least c. 15, lines 39-52 and the paragraph bridging cols. 38-39, with respect to Fig. 2, blocks 48a, 48b, and 48c (compression), and Fig. 17, blocks 134a, 134b, and 134c (decompression).

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For claim 21, see the rejection of at least claims 16 and 18.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

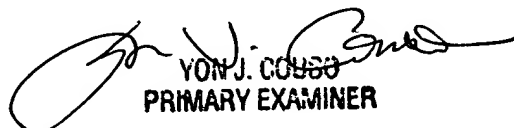
McLaughlin et al is also cited.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yon Couso whose telephone number is (703) 305-4779. The examiner can normally be reached on Monday through Friday from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta, can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YJC

  
YON J. COUSO  
PRIMARY EXAMINER

September 27, 2004